

WHAT IS CLAIMED IS:

1. A mobile communication system characterized by comprising:

5 a plurality of base stations; and
a network control station conceptually located above
said plurality of base stations, the network control
station duplicating and/or synthesizing information in
order to allow a mobile station to simultaneously
10 communicate with at least two base stations.

2. The mobile communication system according to claim
1, characterized in that:

15 said mobile station comprises means for determining,
upon receiving signals from the plurality of base stations,
to which base stations the mobile station is to be connected
in order to satisfy a downlink receiving quality desired
by the mobile station and notifying the network control
station of the desired base stations to which the mobile
20 station is to be connected,

25 said network control station has means for
transmitting a duplicated information signal to said base
stations; and

30 said mobile station thus controls the downlink
receiving quality by receiving and synthesizing signals
transmitted by the plurality of base stations.

3. A mobile communication system comprising:
a plurality of base stations;
a network control station conceptually located above
said plurality of base stations, the network control
5 station duplicating and/or synthesizing information in
order to allow a mobile station to simultaneously
communicate with at least two base stations; and
quality control means having a function of managing
receiving quality of a mobile station present within a
10 service area and/or a function of measuring traffic in each
cell within the service area, the quality control means
notifying said network control station of base stations
with which the mobile station is to communicate
simultaneously.

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4. The mobile communication system according to claim
3, characterized in that:
said mobile station has means for registering, in said
quality control means, the downlink receiving quality
20 desired by the mobile station and the location of the mobile
station, and
said quality control means determines to which base
stations the mobile station is to be connected in order
to satisfy the receiving quality and notifies said network
25 control station of these base stations, said network
control station transmits duplicated information signal
to the base stations, and said mobile station further

receives and synthesizes signals transmitted by the plurality of base stations to control the downlink receiving quality.

5 5. The mobile communication system according to claim 3, characterized in that:

 said mobile station has means for notifying, before transmitting information, said quality control means of a desired uplink receiving quality received by base

10 stations and/or a transmittable maximum power of the mobile station and/or the location of the mobile station,

 said quality control means has means for identifying base stations to which said mobile station is to be connected in order to satisfy quality in such a manner that

15 the transmittable maximum power of said mobile station is not exceeded and means for requesting the base stations and said network control station to receive and synthesize a signal from said mobile station and designating transmission power that is to be used by said mobile station,

20 and

 said mobile station transmits information using said designated transmission power, and the network control section synthesizes signals received by the base stations to control the uplink receiving quality.

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6. The mobile communication system according to claim 3, characterized in that:

5 said quality control means has means for measuring traffic in cells surrounding a cell in which said mobile station is present and means for requesting the network control station to transmit a duplicate signal to one or
5 more stations, if any, which have a lower measured traffic and which can transmit information to said mobile station communicating in an adjacent cell, and

10 said mobile station receives and synthesizes signals from base stations that have been communicating with the mobile station and from the one or more base stations, thereby improving the downlink receiving quality.

15 7. A receiving quality control method for a mobile communication system having a plurality of base stations within a service area, the method being characterized in that:

20 a network control station duplicates and/or synthesizes information in order to allow a mobile station to simultaneously communicate with at least two base stations.

8. The receiving quality control method according to claim 7, characterized in that:

25 said mobile station comprises means for determining, upon receiving signals from the plurality of base stations, to which base stations the mobile station is to be connected in order to satisfy a downlink receiving quality desired

by the mobile station and notifying the network control station of the desired base stations to which the mobile station is to be connected,

5 said network control station has means for
transmitting a duplicated information signal to said base
stations, and

said mobile station thus controls the downlink receiving quality by receiving and synthesizing signals transmitted by the plurality of base stations.

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9. A receiving quality control method for a mobile communication system having a plurality of base stations within a service area, the method being characterized in that:

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when a network control station duplicates and/or synthesizes information in order to allow a mobile station to simultaneously communicate with at least two base stations, said network control station is notified of the base stations with which the mobile station is to

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communicate simultaneously using quality control means having a function of managing receiving quality of a mobile station present within the service area and/or a function of measuring traffic in each cell within the service.

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10. The receiving quality control method according to claim 9, characterized in that:

said mobile station registers, in said quality control

means, the downlink receiving quality desired by the mobile station and the location of the mobile station,

5 said quality control means determines to which base stations the mobile station is to be connected in order to satisfy the receiving quality, and notifies said network control station of these base stations, and

10 said network control station transmits duplicated information signal to the base stations, and said mobile station receives and synthesizes signals transmitted by the plurality of base stations to control the downlink receiving quality.

11. The receiving quality control method according to claim 9, characterized in that:

15 before transmitting information, said mobile station notifies said quality control means of a desired uplink receiving quality received by base stations and/or a transmittable maximum power of the mobile station and/or the location of the mobile station,

20 said quality control means identifies base stations to which said mobile station is to be connected in order to satisfy quality in such a manner that the transmittable maximum power of said mobile station is not exceeded, requests the base stations and said network control station 25 to receive and synthesize a signal from the mobile station, and designates transmission power that is to be used by said mobile station, and

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said mobile station transmits information using the designated transmission power, and said network control section synthesizes signals received by the base stations to control the uplink receiving quality.

12. The receiving quality control method according to claim 9, characterized in that:

10 said quality control means measures traffic in cells surrounding a cell in which said mobile station is present, and requests said network control station to transmit a duplicate signal to one or more base stations, if any, which have a lower measured traffic and which can transmit information to said mobile station communicating in an adjacent cell, and

15 said mobile station receives and synthesizes signals from base stations that have been communicating with the mobile station and from the one or more base stations, thereby improving the downlink receiving quality.

20 13. A recording medium having a receiving quality control program for a mobile communication system recorded therein, the mobile communication system having a plurality of base stations within a service area, the recording medium being characterized in that said program allows execution of a 25 step of causing a network control station to duplicate and/or synthesize information in order to allow a mobile station to simultaneously communicate with at least base

stations.

14. A recording medium having a receiving quality control program for a mobile communication system recorded therein,
5 the mobile communication system having a plurality of base stations within a service area, the recording medium being characterized in that when a network control station duplicates and/or synthesizes information in order to allow a mobile station to simultaneously communicate with
10 at least two base stations, said program causes a computer to execute a step of notifying said network control station of the base stations with which the mobile station is to communicate simultaneously using quality control means having a function of managing receiving quality of a mobile
15 station present within the service area and/or a function of measuring traffic in each cell within the service.